CLAIMS

1. A distorted contents generating apparatus comprising:

an initial value generation unit for generating an initial value used to generate a random number for a distorting filter;

a random number generation unit for generating a random number for the distorting based on the initial value transmitted from the initial value generation unit;

a filter generation unit for generating a distorting filter based on the random number;

a data filtering unit for distorting an original contents by filtering the original contents with the distorting filter;

an encoding unit for encoding the distorted contents output from the data filtering unit;

a signal insertion unit for encrypting the initial value information generated by the initial value generation unit and inserting the encrypted filter initial value into the distorted contents; and

an image correction unit for inserting image correction information into the encoded distorted contents transmitted from the encoding unit.

2. The distorted contents generating apparatus according to claim 1,

wherein the original contents is an analog signal, and

wherein the apparatus further comprises an analog-to-digital conversion unit for converting the analog signal to a digital signal and outputting the digital

signal to the data filtering unit.

3.   The distorted contents generating apparatus
according to claim 1, further comprising:

5   a data determination unit for analyzing format
information of the original contents; and

        a configuration setting unit for determining a
configuration setting value of the distorting filter
based on the analyzed format information.

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4.   The distorted contents generating apparatus
according to claim 1, wherein the data determination
unit analyzes at least information of a screen size, the
number of frames, a reproducing time, and a date amount

15   per unit time of the original contents.

5.   The distorted contents generating apparatus
according to claim 1, wherein the configuration setting
value determined by the configuration setting unit

20   includes information on at least one of the number of
partitions per frame of contents, the number of
partitions to which the random number for the distorting
filter is applied, an occupation rate of the random
number for the distorting filter applied to the

25   partitions of each of the frames of the contents, the
number of distorting filters applied to streams of the
digital contents, and a stream range to which the
distorting filter is applied.

30 6.   The distorted contents generating apparatus
according to claim 1, further comprising an initial
value encrypting unit for encrypting the initial value
information generated by the initial value generation

unit.

7. The distorted contents generating apparatus according to claim 1, further comprising a signal packaging unit for packaging and transmitting a plurality of image signals to which the image correction information and the encrypted filter initial value are inserted.

8. A distorted contents recovering apparatus comprising:

a decoding unit for decompressing and decoding a distorted contents;

a contents analyzing unit for extracting recovering information for the distorted contents;

a signal extraction unit for extracting an encrypted filter initial value and image correction information from the decompressed distorted contents; and

a contents recovering unit for generating a recovering filter based on the filter initial value and recovering contents from the distorted contents by using the recovering filter.

9. The distorted contents recovering apparatus according to claim 8, wherein a decoding scheme of the decoding unit is determined corresponding to an encoding scheme of an encoding unit of a distorted contents generating apparatus.

10. The distorted contents recovering apparatus according to claim 8, wherein the contents analyzing unit performs detecting the encrypted filter initial

value information and the correction information.

11. The distorted contents recovering apparatus according to claim 8, wherein the contents recovering

5   unit comprises:

a recovering filter generation unit for generating the recovering filter based on the encrypted filter initial value provided from the signal extraction unit;

a data filtering unit for filtering the distorted

10 contents with the generated recovering filter; and

a contents correction unit for correcting a portion of the recovered contents based on the correction information transmitted from the signal extraction unit.

15 12. The distorted contents recovering apparatus according to claim 11, wherein the recovering filter generation unit comprises:

an initial value decryption unit for decrypting the encrypted filter initial value transmitted from the

20 signal extraction unit;

a random number generation unit for generating an filter value information used to recover the contents based on the decrypted initial value transmitted from the initial value decryption unit; and

25 an inverse filter generation unit for generating the recovering filter used to recover the distorted contents based on the filter information value transmitted from the random number generation unit and the decrypted initial value transmitted from the initial

30 value decryption unit.

13. A distorted contents generating method comprising steps of:

generating an initial value used to generate a random number for a distorting filter;

generating a distorting filter based on the generated initial value;

5   distorting an original contents with the distorting filter;

encrypting information on the distorting filter;

generating correction information on the distorted contents; and

10   generating the distorted contents by packaging the generated distorted contents, the information on the distorting filter, and the distortion correction information.

15   14.   The distorted contents generating method according to claim 13, further comprising steps of:

generating a predetermined random value based on the generated initial value; and

generating a distorting filter based on the 20 generated random value and the generated initial value.

15.   The distorted contents generating method according to claim 13, further comprising a step of converting an analog contents signal to a digital contents signal.

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16.   The distorted contents generating method according to claim 13, further comprising:

a data determination step of analyzing format information of the original contents; and

30   a configuration setting step of determined a configuration setting value of the distorting filter based on the analyzed format information transmitted from the data determination step.

17. The distorted contents generating method according to claim 16, wherein the data determination step is performed by analyzing at least information of a screen size, the number of frames, a reproducing time, and a date amount per unit time of the original contents.

18. The distorted contents generating method according to claim 16, wherein the configuration setting value determined in the configuration setting step includes information on at least one of the number of partitions per frame of contents, the number of partitions to which the random number for the distorting filter is applied, an occupation rate of the random number for the distorting filter applied to the partitions of each of the frames of the contents, the number of distorting filters applied to streams of the digital contents, and a stream range to which the distorting filter is applied.

19. The distorted contents generating method according to claim 13, further comprising an initial value encrypting step of encrypting the initial value information generated by the initial value generation step.

20. The distorted contents generating method according to claim 13, further comprising a signal packaging step of packaging and transmitting a plurality of image signals to which the image correction information and the encrypted filter initial value are inserted.

21. A distorted contents recovering method comprising steps of:

receiving and decoding a distorted contents;

extracting encrypted filter information and correction information from the received distorted contents;

5   generating an initial value by decrypting the extracted encrypted filter information;

generating a filter information value used based on the generated initial value to recover an image signal;

generating a recovering filter based on the 10 generated random value and the initial value;

recovering the distorted image signal by using the recovering filter; and

correcting the recovered image signal based on the extracted correction information.

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22. The distorted contents recovering method according to claim 21, wherein a decoding scheme performed in the decoding step is determined corresponding to an encoding scheme performed in an encoding step of a distorted 20 contents generating method.

23. The distorted contents recovering method according to claim 21, further comprising a contents analyzing step of extracting basic information from the decoded 25 distorted contents used to recover the distorted contents.

24. The distorted contents recovering method according to claim 23, wherein the contents analyzing step further 30 performs a step of detecting the encrypted filter initial value information and the correction information.

25. The distorted contents recovering method according

to claim 21, wherein the contents recovering step comprises:

a recovering filter generation step of generating the recovering filter based on the encrypted filter initial value provided from the signal extraction step;

a data filtering step of filtering the distorted contents with the generated recovering filter; and

a contents correction step of correcting a portion of the recovered contents based on the correction information transmitted from the signal extraction step.

26. The distorted contents recovering method according to claim 25, wherein the recovering filter generation step comprises:

an initial value decrypting step of decrypting the encrypted filter initial value transmitted from the signal extraction step;

a random number generation step of generating an filter value information used to recover the contents based on the decrypted initial value transmitted from the initial value decrypting step; and

an inverse filter generation step of generating the recovering filter used to recover the distorted contents based on the filter information value transmitted from the random number generation step and the decrypted initial value transmitted from the initial value decrypting step.